

**XL.**—*On the Tribe Colletieæ, with some Observations on the Structure of the Seed in the Family of the Rhamnaceæ.* By JOHN MIERS, F.R.S., F.L.S. &c.

[Continued from p. 273.]

Division 2. **Chænocarpæ.** Flores petaliferi; fructus capsularis, dehiscens.

### 3. DISCARIA.

This genus was first established by Sir W. Hooker in 1830, and was then distinguished from *Colletia* principally on account of its smaller, cup-shaped, hypogynous disk, having an entire border, and not being perigynous, with a very remarkable involute margin: this, and the presence of petals, were well-marked characters; but these exist also in other genera since then established, which are again signalized by other distinct features. The several species of *Discaria*, with two exceptions, seem to be limited to a region formed by the provinces which border the river Plate: they are all spinose in their habit, much resembling in appearance those of *Colletia*, and consist of undershrubs or low bushes, almost aphyllous, and generally glabrous. The peculiar character which distinguishes this genus from *Ochetophila* is that of its fruit, which here also is capsular, somewhat globular, and 3-lobed, and half imbedded in the enlarged fleshy disk conjoined with the strongly ribbed cupular base of the calyx. I have pointed out in *Colletia* the easy decortication of the upper portion of the epicarpous covering, which, at the period of dehiscence, breaks away by a transverse circumscissile line; here, on the contrary, where it is thicker in texture, and half coriaceous, it opens by radiating lines into three valves, which generally remain persistent upon the margin of the disk, and thus allow its three enclosed cocci to spring out and escape. The support of the fruit appears formed of two thickened adnate cups; the inner one, somewhat the longer, is the enlarged disk, surrounded by the detruncated base of the calyx, while in *Ochetophila* this appearance does not occur, as there the basal support is thin and almost membranaceous, and the disk, not exceeding the length of the calycine cup, is not manifest. For reasons assigned in their respective places, the following species, formerly placed here, are referred to other genera: *D. australis*, Hook., to *Ochetophila*; *D. pauciflora*, Hook. fil., to *Scypharia*; and *D. Toumatou*, Raoul, as already described, to *Notophæna*.

**DISCARIA**, Hook.—*Calyx* tubuloso-campanulatus, 8–10-nervis, limbi laciniis 4–5, acutis, reflexis, æstivatione valvatis, imo demum circumscissus. *Petala* 4–5, squamiformia, ovata, unguiculata, subconvexa, stamina amplectentia. *Stamina* 4–5,

petalis vix breviora, et cum illis intra lacinias inserta: *filamenta* brevissima, erecta; *antheræ* reniformes, 2-loculares, rima hippocrepica antice dehiscentes. *Discus* pateriformis, carnosulus, margine libero, crenulato. *Ovarium* oblongum, 3-sulcatum, disco breviter immersum, 3-loculare; *ovula* in loculis solitaria, erecta; *stylus* brevis; *stigma* obtuse 3-lobum. *Fructus* subglobosus, 3-sulcatus, in calycis cupulam valde 10-costatam discoque aucto adnatam semi-immersus, epicarpio crasso coriaceo persistente 3-valvato, endocarpio hinc secedente, in coccis 3 elastice resilientibus, axin versus bivalvatim dehiscentibus, singulis monospermis. Semen *Colletieæ*.

Suffrutices in *Provinciis Argentinis præcipue vigentes, rarius in Australasia*, ramis valde patentibus, ramulis spinoscentibus; folia parvula, breviter petiolata, spathulato-oblonga, infra spinas orta, fasciculata, valde decidua: stipulæ minutæ, 2-lobæ, laciniis subulatis: flores 2-3, fasciculati e turionibus spina brevioribus cum foliis prodeuntes; pedunculo 1-floro, nutante.

1. *Discaria Americana*, Hook. Bot. Misc. i. 156. tab. 44 D. *Condalia spinosa*, Spr. Syst. Cur. post. iv. 108. *Condalia megapotamica*, Spr. Linn. xv. 473;—intricatisime spinosa, ramis tortuosis, ramulis compresso-teretibus, fere aphyllis, obsolete rigide pilosulis, spinis decussatim oppositis, iterumque spinulosis, striatis, subulatis, apice calloso-pungentibus; foliis minimis, oppositis, rarius 2-3 infra singulas spinas enatis, oblongis, obtusis, serratis, imo in petiolum brevem cuneatis, reflexis, caducissimis: stipulis minimis, rudimentariis, rubris, obsolete 2-dentatis intus pilosulis; floribus 2-3, fasciculatis, nutantibus, e tuberculo sub spina stipula suffulto ortis; calyce urceolato, limbo 5-fido, petalis 5, oblongis, concavis, unguiculatis, staminibus 5 petalis paulo longioribus, et laciniis 3-plo brevioribus, erectis, filamentis brevibus, antheris ovatis, ovario oblongo, 3-sulcato, glabro, stylo calycis dimidio longitudinis, fructu 3-cocco, calycis cupula valde 10-sulcata suffulto.—Portozuelo Prov. Cordovæ (mihi lecta); in radicibus montium Prov. San Luiz et Cordova (Gillies).

I cannot find in the Hookerian herbarium the typical plant upon which Sir William Hooker founded this genus, nor any other approaching its characters; it was probably a unique specimen that remained in Gillies's own collection, which was afterwards sold and dispersed. In one of my journeys over the Pampas I found a plant in the same locality in which Gillies met with his, so that I may safely consider mine as referable to the same type, notwithstanding the want of flowers for its complete identification: it is only in fruit. The floral character given above is therefore derived from Sir Wm. Hooker's figure,

which closely resembles that of the following species, which I received from Tweedie. In its intricately spinose habit, it has quite the appearance of a *Colletia*; the spinules generally are from 6 to 9 lines long, the internodes being somewhat shorter; the leaves, including the petiole, are only 1 line in length, and half a line in breadth; they are deflected, naviculate, with a recurved apex. In Sir Wm. Hooker's figure, the peduncle is 1 line long, the tube of the calyx is 2 lines long, the same in diameter, and the border-segments half that length; the disk, adnate to the bottom of the calyx, has a narrow, free, crenulated margin. The peduncle in the fruit is much thickened, striated, and elongated to 2 lines; the capsule is globular, somewhat depressed, 2 lines in diameter, half imbedded in the persistent cup of the calyx, which is of a fuscous reddish hue, is 10-ribbed, and glabrous; the free rim of the adnate intermediate disk runs parallel above the margin of the cupuliform base of the calyx; the thick and somewhat coriaceous epicarp of the capsule splits along its grooves in the form of three persistent valves, owing to the pressure of the three cocci, which thus escape from their enclosure with an elastic spring; these cocci are thin and horny, splitting along the line of the central axis, and partly along that of the dorsal face, exactly after the manner of the *Euphorbiaceæ*\*

2. *Discaria Lycioides*, n. sp.; ramulis substrictis, simpliciter spinosis, spinis decussatim oppositis, teretibus, quam eæ præcedentis gracilioribus, glabris, striatis, inter strias granuloso-punctulatis, apice calloso-pungentibus, rarius spinulis secundariis armatis; turionibus (ramulis novellis) spina tertia parte brevioribus, foliiferis et floriferis sub spinis superioribus singulatim ortis, foliis crebriate axillarum, hinc fere fasciculatis, sed vere oppositis, oblongis, remote serratis, apice mucronulatis, imo in petiolum tenuem cuneatis, glaberrimis, caducis: stipulis minimis, mucroniformibus, oppositis, sub spinis inter se linea transversali nexis; floribus e turionibus 2-4, et proximitate istorum apicem versus ramorum, hinc densiter spicatum congestis; pedunculo flore brevioribus; calyce urceolato, limbi laciniis 4, triangularibus, erectis, apice recurvulis; petalis 4, illis dimidio brevioribus, elliptico-ovatis, imo late spatulatis, paulo concavis; staminibus eorum longitudine; antheris ovalibus; stylo incluso; stigmatibus capitato-3-lobis.—Banda Oriental.—v. s. in herb. meo (Tweedie): in herb. Mus. Paris, Rio Grande (St.-Hilaire, 1873; Gaudichaud, 1838).

This plant is very like a *Lycium* in habit; its branches are straighter than in the preceding species, and are quite glabrous; its opposite spines are spreading,  $\frac{5}{8}$  or  $\frac{3}{4}$  inch long and  $\frac{1}{2}$  an inch

\* This plant will be shown in the 'Contributions,' Plate 38 A.

apart; the lower ones are bare, but towards the extremities of the branches, beneath each spine, an elongated sprout or suppressed branchlet occurs about 3 lines long, which is imbricately squamose, owing to the decussating stipules of the approximated axils; from these, both opposite leaves and flowers issue in great abundance, which thus appear fasciculated, and in this manner the extremities of the branches assume the aspect of dense spikes, richly covered with flowers. The leaves are 3 lines long,  $1\frac{1}{2}$  line broad, on a slender petiole of half a line in length; they are somewhat fleshy, serrated on the edges, deeply retuse, and mucronate at the apex; the peduncle is above a line long; the calyx, including the short erect segments, is 2 lines long, and  $1\frac{1}{2}$  line in diameter, and is of a reddish hue; the stamens are almost sessile in the sinus of the segments, and they, as well as the small scale-like petals, are only half the length of the segments\*.

Var,  $\beta$ , *exilis*: glaberrima, ramulis gracillime vimineis, spinosis, spinis remotioribus, elongatis, tenuiter acufornibus, et interdum spinulosis: floribus in axillis subsolitariis.—Buenos Ayres.—*v. s. in herb. Mus. Paris; in herb. Jussieu* (Commer-son); *in herb. Soc. Linn. Lond.* (a Jussieu missa).

This is of an extremely slender growth, and I consider it to be merely a variety of the above species; its leaves are deeply serrated, and its flowers somewhat smaller: the internodes are 6 to 8 lines apart, the needle-like spines are 9 to 12 lines long, and the spinelets 3 or 4 lines; the opposite leaves are 4 lines long, including the short petiole, and 1 line broad; the flowers, like those in Tweedie's specimen, are of a reddish colour; the peduncle is 2 lines long; the calyx, including its four segments, is 2 lines long, and, in like manner, the almost sessile erect anthers and scale-like petals are barely half the length of the short triangular segments †.

3. *Discaria longispina*. *Colletia longispina*, *Hook. Arn. Bot. Misc.* iii. 173;—fruticosa, glaberrima, fere aphylla, ramis ramulisque virgatis, spinosis, spinis oppositis, remotis, longissimis, sæpe arcuatis, patentibus, sæpius nudis, calloso-pungentibus: ramulis novellis sub spinis enatis, axillis decussatis foliiferis et floriferis; foliis oppositis, parvulis, elongato-ellipticis, acutis, integerrimis, rarius apice denticulatis, imo gradatim cuneatis, nitentibus, viridibus, carnosulis, nervis immersis; stipulis minutis, rubris, ovatis, apice acute 2-dentatis, longe albido-ciliatis, linea transversali sub spinis inter se

\* A representation of this species will be given in Plate 38 B of the 'Contributions.'

† This variety will be represented in Plate 38 C of the same work.

connexis; floribus proximitate axillarum, hinc sæpe densiter congestis; pedunculo calyci æquilongo; calyce late urceolato, limbi laciniis 4, erectis, petalis 4, ovalibus, utrinque acutis, subconcavis, laciniis subæquilongis; staminibus petalis vix brevioribus, ovario in fundo disci crateriformis adnati margine liberi insidente, depresso globoso, 3-sulcato, glabro; stylo incluso, fructu subgloboso, calycis cupula crassa suffulto, coccis 3 secedentibus, epicarpio persistente 3-valvatim dehiscente.—In Provinciis Argentinis.—*v. s. in herb. Mus. Paris, in herb. Jussieu* (Commerson); Monte Video (Gay); Rio Grande (Gaudichaud, 1617): *in herb. Hook.*, Buenos Ayres (Tweedie, 1378); Puerto Bravo (Tweedie); Bahia Blanca (Darwin); Maldonado (Capt. King); Banda Oriental (Baird).

This differs from the preceding species in its longer and more vimineous branches, its more distant nodes, and the much greater length of its spines; its flowers also are smaller, more lobular, and paler. The floriferous gemmæ are lengthened into more distinct branchlets, with more remote decussating axils: the spines generally attain a length of  $1\frac{1}{2}$  inch,—sometimes, as in Commerson's specimen, they are shorter; while in that from the Banda Oriental they are  $2\frac{1}{2}$  inches long: the leaves are usually 3 lines long and 1 line broad, but occasionally they attain a length of 5 lines: the floral peduncle is 1 or 2 lines long; the calyx, including its border, is  $2\frac{1}{2}$  lines long,  $1\frac{1}{2}$  line in diameter; it is thin in texture, and of a pale yellow colour, probably white in the living state; the fruit and peduncle are of the size of those of *D. Lycioides*, but the persistent portion of the calyx is dark red and smooth\*.

4. *Discaria spiculata*, n. sp.;—suffruticosa, glaberrima, ramulis teretibus, subcompressis, decussatim spinosis, substriatulis, fusco-viridibus, fere aphyllis; spinis subulatis, validioribus, apice calloso-pungentibus; foliis parvulis, e gemmis elongatis per paria enatis, mox caducis, oblongis, utrinque acutis, carnosulis, fere integris, enerviis, glaberrimis; stipulis oppositis, rudimentariis, acutis, sub spinis non inter se connexis; floribus solitariis, glabris, pedunculis calyce sub-brevioribus, calyce campanulato-cylindrico, subbrevis, limbi laciniis 4, dentiformibus, erectis, apice callo carnosulo incrassatis, petalis minimis, laciniis 4-plo brevioribus, ovatis, utrinque acutis, subconcavis, erectis; staminibus 4, petalis æquilongis, filamentis brevissimis, antheris ovatis; disco adnato, patelliformi; ovario glabro, oblongo, stylo medium tubi attingente; fructu immaturo

\* A drawing of this species will be given in Plate 38 D of the 'Contributions.'

globoso, 3-lobo, calycis cupula semicincto.—Circa Buenos Ayres.—*v. s. in herb. Soc. Linn.* (Commerson).

This is another species, existing in the herbarium of the younger Linnæus, with a ticket in his hand-writing, "circa Buenos Ayres—Commerson." It bears some resemblance in its general habit to *D. Lycioides*, but its spines are shorter and thicker, and its flowers are only one-fourth the size of those of that species. The leaves, including the petiole, are about 2 lines long, the peduncle 1 line, the calyx, including its teeth,  $1\frac{1}{2}$  line long, and 1 line in diameter. The spinules are from 3–5 lines in length\*.

Var. *β. gracilentata*;—ramulis gracillimis, spinis nudis, remotis, acicularibus, patentibus; foliis lineari-oblongis, imo in petiolum spathulatis, integris vel summo 2-dentatis et emarginatis, discoloribus; stipulis linea transversali nexis, nodis hinc quasi articulatis: floribus solitariis, pedunculo folio æquilongo.—In Prov. Argentinis?—*v. s. in herb. Soc. Linn. Lond.*

This plant is likewise in the herbarium of the younger Linnæus, without any locality or designation, and is probably also from Commerson's Collection; it has more slender branches, and longer needle-like spines, and the nodes are almost articulated; its leaves and flowers, too, are more minute. Its very slender spines are 1 inch long, and half that distance apart: the floriferous branchlets are only  $\frac{1}{4}$  or  $\frac{3}{8}$  inch in length; its leaves (including the petiole of  $\frac{1}{2}$  line) are 2 lines long,  $\frac{1}{2}$  line broad; the peduncle is 1 line; the calyx is  $\frac{5}{8}$  line long, and  $\frac{1}{2}$  line in diameter †.

5. *Discaria australis*, Hook. Bot. Misc. i. 157, tab. 45 A; Journ. Bot. i. 256; Hook. fil. Flor. Tasm. i. 69. *Colletia pubescens*, Brongn. Ann. Sc. Nat. x. 366. *Colletia Cunninghami*, Fenzl, Pl. Hug. 23. *Tetrapasma juncea*, G. Don, Dict. ii. 40;—suffruticosa, dumosa, ramulis erectis, virgatis, junceis, valde spinosis, pubescentibus, adultioribus fere glabris, subaphyllis; spinis internodio æquilongis, decussatim oppositis, patentibus, subulatis, calloso-pungentibus; foliis oppositis, lineari-oblongis, imo cuneatis, integris, acutis, aut summum versus serrulatis, apice mucronatis, crassiusculis, margine cartilagineo subrevoluto, obscure 3-nerviis, nervis omnino immersis, superne viridibus, subtus flavide glaucis, petiolo brevi; stipulis parvis, oppositis, apice 2-dentatis, sinu petioliferis, imo latis, sub spinis linea transversali nexis; floribus plurimis, e

\* This species will be represented in Plate 38 E of the 'Contributions.'

† A sketch of this variety will be given in Plate 38 F of the same work.

gemma squamosa elongata parvis, congestis, glabris; pedunculo brevi, tenui, calyce suburceolato, 4-dentato, dentibus tubo æquilongis; petalis 4, lineari-oblongis, dentium calycinorum dimidio longitudinis; staminibus totidem, e basi petalorum introflexis; disco poculiformi, adnato, margine undulato, latiusculo, libero; ovario depresso, in discum semi-immerso, glabro, stylo brevissimo, incluso; fructu parvo, 3-cocco.—In Australasia et Tasmania.—*v. s. in herb. Hook.*, Cox's River et Port Jackson (A. Cunningham); in interioribus (M'Arthur); Loddan (F. Müller); Great Swanport (Backhouse); Norfolk Plains, Tasmania (Gunn).

This plant, in its general habit and floral characters, quite agrees with all the foregoing species; but it differs from them in the more membranaceous epicarp of its capsule, which splits near the margin of the cupuliform disk, and remains attached to the resilient cocci, as in *Colletia* and *Ochetophila*. It grows in sandy places, forming a mean-looking bush, 2 or 3 feet high; its branches are virgated and spinose; its spreading spines measure  $\frac{1}{2}$  inch to  $1\frac{1}{2}$  inch; the leaves are 4 to 6 lines long,  $1\frac{1}{2}$  line broad, on a petiole  $\frac{1}{2}$  line in length; the peduncle is slender, and 2 lines long; the calyx, including its segments, measures only 1 line in length and in diameter.

#### 4. OCHETOPHILA.

This genus, proposed, but not published, by Pöppig, was first described by Endlicher, in his *Gen. Plant.* (No. 5733), founded upon the *Sageretia trinervis* of Gillies, and comprising two other plants from Chile, which were designated by name only, and are still undescribed. It is distinguished from *Discaria* by many slight characters, among which is the form of its peculiar stipules. In the latter genus, the petiole springs from the sinus between the teeth of each retinaculoid stipule, the margins of which are connected with those of the opposite stipule by a transverse line. In *Ochetophila*, the petioles of the opposite leaves spring directly from the branch; they widen at their base, and embrace the stem so far that their edges meet together in the middle of the node, giving it an articulation of a different character to that in *Discaria*: in each axil above the base of the petiole is seen a broad, concave, somewhat erect, dark red, scale-like stipule, which is bifid at its apex, with ciliated margins. The structure of its flower much resembles that of *Discaria*, and the shape and formation of its fruit are similar: its petals, however, are proportionally larger, more cucullate, and they often completely hide the stamens; the free portion of the filaments is comparatively longer; the disk is like that of *Discaria*. The

flowers are more numerous, and are supported by longer peduncles. Its capsule resembles that of *Colletia*, being half-imbedded in the simple cupular base of the calyx, while in *Discaria* it appears to be surrounded by two thickened cups, the inner one being somewhat longer, originating in the growth of the adnate disk, and the protrusion of its free margin beyond the cup of the calyx: on the contrary, in *Ochetophila*, the cupuliform support is thin and almost membranaceous, and the disk is not discernible, owing to its not exceeding the length of the cup of the calyx. All the species differ in their habit from *Discaria*; they often form good-sized trees, and their branches are rarely furnished with spines, although their extremity is generally sharp-pointed; they are copiously furnished with leaves, which are much larger and three-nerved.

The typical species above mentioned is the *Rhamnus Chacaya* of Dombey, erroneously stated to have been brought from Peru; it grows abundantly near the margins of streams in the elevated valleys of the Andes, and these localities are hence called "los Chacayes," from the vernacular name of the tree. In general appearance it resembles *Notophæna foliosa*, and the two are commonly confounded in herbaria; but the absence of petals in the latter genus constitutes an essential difference. Its generic name is evidently derived from the circumstance that its species are usually found near running streams; those of *Discaria* prefer, on the contrary, dry, saline, and sandy situations. The character of the genus is here remodelled as follows:—

OCHETOPHILA, Pöp.—Char. emend.—*Calyx* petaloideus, urceolato-campanulatus, usque ad medium 4-5-fidus, laciniis acutis, intus carinatis, calloque sub apice signatis, reflexis, æstivatione valvatis. *Petala* 4-5, oblonga, cucullata, imo attenuata, laciniis calycinis æquilonga, et cum staminibus in sinibus inserta. *Stamina* 4-5, petalis recondita; *filamenta* subulata, tenuia, erecta, apice inflexa. *Antheræ* parvulæ, ovatæ, 2-lobæ, imo profunde cordatæ et divaricatæ, apice dorsi affixæ, lobis singulatim 2-valvulatis, valva antica brevior et hinc rima hippocrepica hiantibus. *Discus* carnosus, late pateriformis, calyci omnino adnatus, margine vix libero, integro vel subcrenato. *Ovarium* depresso-globosum, 3-sulcatum, liberum, medio disci insitum, et eo vix immersum, 3-loculare; ovula in loculis solitaria, erecta. *Stylus* calyce dimidio brevior, 3-sulcatus, glaber. *Stigma* obtuse 3-lobum, lobis paulo divaricatis. *Fructus* globosus, *Notophæna* similis. Semen *Colletie*.

Frutices arborescentes et erecti vel demissi et decumbentes, in Andibus Chilensibus vigentes, foliatione et inflorescentia ut in *Notophæna*, sed stipulis diversis.



1. *Ochetophila trinervis*, Pöp., Endl. Gen. No. 5733.—*O. Hooke-riana*, Reiss. in Gay, *Chile*, ii. 39.—*Sageretia 3-nervis*, Gill. et Hook. Bot. Misc. iii. 172.—*Colletia inermis*, Clos in Gay, *Chile*, ii. 36; *C. Doniana*, Clos, loc. cit. ii. 36.—*C. Chacaye*, G. Don, Dict. ii. 35.—*Rhamnus linearis*, Clos, loc. cit. ii. 21. *Rhamnus Chacaya*, Domb.;—arbuscula 2–3-orgyalis, glabra; ramis teretiusculis, ramulis teretibus, subvirgatis, subpendulis, valde foliosis, inermibus, vel apice interdum spina terminatis; foliis oppositis, elliptico- vel lanceolato-oblongis, obtusiusculis et mucronulatis, integerrimis, supra viridibus, subtus glaucis, imo in petiolum brevem decurrentibus, 3-nerviis, nervis lateralibus margine parallelis, eveniis; stipulis intrapetiolaribus, latis, erectis, 2-dentatis, ciliatis, utrinque in lineam transversalem connexis; floribus subternis, fasciculatis, folio multo brevioribus, 4-meris, rarius 5–6-meris, pedunculo imo bracteato, glabro, calycis tubo urceolato, quam pedunculus 2-plo brevior, laciniis reflexis, tubo æquilongis, petalis oblongis, concavis, late unguiculatis, erectis, longitudine laciniarum; fructu parvo, 3-cocco.—In Andibus Chilensibus.—*v. v.* locis humidis in vallibus circa Mendozam (los Chacayes dictis).—*v. s.* in herb. Hook.; Chile, La Guardia (Gillies, Cuming, 242); Chile (Bridges, 142).—in herb. meo; Cordillera de Maule (Germain).—in herb. Mus. Paris; Cauquenes (Gay, 359); Cordillera del Hurtado, alt. 2015 met. (Gay, 525).

This species has an extensive range along the skirts of the Cordillera; but I doubt its existence near the sea-coast, though Bridges's specimens are referred to as from Valparaiso, that being the place whence they were sent: this error of locality is frequent among the specimens of Bridges and other collectors. Its range extends as far to the southward as Concepcion, where it forms a tree 18 feet in height, with a trunk 18 inches in diameter, the wood being very durable, even in the ground; for which reason it is used in building the cottages of the natives: an infusion of its bark is also employed there in the cure of ulcerous swellings. I met with it on the eastern side of the Andes, where it forms a pretty tree, with long, slender, pendent branches, with abundant delicate foliage, and copious small white flowers. Its leaves, with three parallel prominent nervures, are from 6–9 lines long, 2–3 lines broad, on a slender petiole 1 line in length: the pedicels are 2–2½ lines long, slender, the flowers being a line in length, and the same in diameter; the capsule is 1½ line diam. The specimens from Germain's collection, distributed as the *Rhamnus linearis*, Clos, belong to this species\*.

\* A drawing of this species will be given in the 'Contributions,' Plate 39 A.

2. *Ochetophila prostrata*, n. sp.;—*Colletia nana*, Clos in Gay, *Chile*, ii. 37;—fruticosa, humilis, inermis, ramis nodosis, cortice nitido solubili; ramulis brevibus valde foliosis; foliis parvulis, oppositis, creberrime aggregatis, spathulato-ovalibus, obtusis, integerrimis, crassiusculis, margine subrevoluto, supra pallide viridibus, utrinque bullato-resinosis, brunneo-maculatis, rigide pilosulis, subtus hepaticis, longius pilosis, petiolo brevi canaliculato; stipulis 2-dentatis, intrapetiolaribus, erectis, acutis, rigide ciliatis; floribus axillaribus, solitariis, glaberrimis, proximitate foliorum quasi aggregatis, pedunculo folio fere æquilongo; calyce cylindrico, imo inflato, limbi laciniis 4, acutis, reflexis, tubo tertia parte brevioribus; petalis 4, laciniis brevioribus, oblongis, erectis, concavis, unguiculatis; staminibus totidem e basi introflexis; antheris ovato-rotundis, medio dorsi peltatim affixis; disco crateriformi, margine integro; ovario subgloboso fundo disci insito, 3-sulcato; stylo brevi incluso.—In Andibus Chilensibus excelsioribus.—v. s. in *herb. Hook.*, declivitate orientali (Bridges, 1209).—in *herb. Mus. Paris*, Chile (Gay); specimen typicum *Colletie nanae*, Clos.

This is an alpine shrub, of diminutive size and prostrate growth, with an abundance of small foliage and with copious small pendent flowers; it is closely allied to the preceding species, but has a more caespitose habit, with much longer peduncles, and a longer calyx. Its leaves, including the short petiole, are 3 lines long and 1 line broad; those of the flowering shoots are only half this size: the stipules are very conspicuous, differing from those of *Discaria* and *Notophæna* in being intrapetiolar, while the margins of the opposite petioles are continued in a transverse line across the stem: the peduncles are 1–2 lines long; the tubular calyx, somewhat contracted in the middle, is  $1\frac{1}{2}$  line long, the lobes of its border being  $\frac{1}{2}$  line in length. Bridges's specimen corresponds with Dr. Clos's *Colletia nana* \*.

3. *Ochetophila parvifolia*, n. sp.;—suffruticosa, humifusa, ramosa, inermis, ramis validioribus, cortice nitido solubili, ramulis brevibus aut longioribus, nodis subarticulatis, approximatis, foliosis; foliis subfasciculatis, minimis, spathulato-ovatis, obtusis, integerrimis, carnosulis, navicularibus, infra subcarinatis, enerviis, pallide viridibus, glaberrimis, utrinque bullato-resinosis et brunneo-punctatis, petiolo brevi, canaliculato; stipulis oppositis, rubellis, ut in præcedente; floribus paucis; calyce urceolato, tubo subbrevis, limbi laciniis 4, acutis; petalis 4, laciniis multo brevioribus, cucullatis; staminibus totidem iis brevioribus; antheris ovalibus; ovario 3-lobo, in

\* This plant will be figured in the 'Contributions,' Plate 39 B.

fundum disci crateriformis insito; stylo brevi, stigmati lobis 3, arcte adpressis.—In Andibus Chilensibus excelsioribus.—*v. s. in herb. Hook.*, Cordillera, in præaltis (Bridges).

This also is a dwarfish species, which attaches itself to the surface of rocks, like the preceding species; but it appears to be somewhat more erect, with stouter and straighter branches, which are closely beset with very short branchlets, all covered with shorter, more numerous, and more minute leaves. In the specimen above cited, the flowers are only in bud, and few are developed; these, however, are sufficient to show their structure. The leaves, with their petioles, scarcely exceed  $1\frac{1}{2}$  line, or at most 2 lines in length, and 1 line in breadth. The flowers are smaller than in the preceding species. It has much the habit of the *Rhamnus microphyllus* of Kunth (tab. 616), but with still smaller leaves\*.

4. *Ochetophila riparia*, Pöpp. MSS.

5. *Ochetophila divergens*, Pöpp.

No description has yet been given of these two species, their existence only being indicated in Endlicher's 'Genera Plantarum' (No. 5733), where they are stated to have been found by Pöppig in Chile.

##### 5. ADOLPHIA.

This must be considered in some degree as an aberrant genus of the *Colletieæ*, amongst which it has been placed by Endlicher. My reason for this doubt is founded on the structure of its calyx, which is cleft down to the limit of the adnate disk, the consequence of which is that the stamens appear to originate outside the margin of the disk, as in the *Rhamneæ*, thus divesting it of one of the peculiar and distinctive characters of the *Colletieæ*; on the other hand, the species on which the genus is established has opposite leaves,—a feature rarely or imperfectly developed in the *Rhamneæ*. I have also noticed, in the structure and mode of dehiscence of the anthers, another character found in some of the genera that follow, which I do not see recorded in any species of the *Rhamneæ*. Dr. Asa Gray remarks (Pl. Wright. p. 34) that *Adolphia* hardly differs from *Colubrina*, which may be true in some degree, as far as regards the structure of the flower; but that genus has alternate leaves. *Ceanothus* is in the same category, although its fruit, as in *Colubrina*, is said to be exactly like that of *Colletia*, *Adolphia*, and some other genera of the *Colletieæ*. Brongniart's remark† on this

\* A representation of this species will be given in Plate 39 c of the 'Contributions.'

† Ann. Sc. Nat. x. 367.

point is more conclusive; for he states that *Adolphia* differs from *Ceanothus* and *Colubrina* in the form of its calyx and petals, its simple style, opposite leaves, and spinose branchlets, which are all floriferous below.

ADOLPHIA, Meisn.—*Calyx* campanulatus, brevis, ultra medium 5-fidus, laciniis acutis, intus carinatis et callosis, æstivatione valvatis. *Petala* 5, ovata, cucullata, imo unguiculata, stamina amplectentia. *Stamina* 5, inter lacinias calycinas cum petalis infra marginem disci inserta; *filamenta* complanata, erecta, apice inflexa; *antheræ* rotundatæ, cordatæ, 2-lobæ, connectivo reniformi dorsali affixæ, rima hippocrepica 2-valvatim dehiscentes, et hinc demum peltatim apertæ. *Discus* crateriformis, carnosulus, magnitudine tubi calycis, et ei arcte adnatus. *Ovarium* in fundum disci insitum, et paululo immersum, depresso-globosum, 3-loculare; *ovula* in quoque loculo solitaria, erecta. *Stylus* brevis; *stigma* obtusum, 3-lobum. *Fructus* capsularis, 3-coccus, ut in *Colletia*.

Frutex *Mexicanus*, ramosissimus, spinosus, ramulis oppositis, teretibus, sæpius spina terminatis; spinis patentibus, decussatim oppositis, rigidis; folia opposita, longe linearia, integerrima; flores solitarii, axillares, quasi fasciculati.

1. *Adolphia infesta*, Meisn.; *Benth. Pl. Hartw.* 286; *A. Gray, Pl. Wright.* 34.—*Colletia infesta*, *Brongn. Ann. Sc. Nat.* x. 366.—*Ceanothus infestus*, *H. B. K.* ii. 31.—*Colubrina infesta*, *Schl. Linn.* xv. 468;—Frutex 3–4-pedalis, ramosissimus, spinosissimus; ramis ramulisque patentibus apice spinoscentibus, junioribus retrorsum hirtellis, spinis decussatis; foliis parvis, oppositis, anguste lanceolatis, apice mucronatis, integris, crassiusculis, pilosulis, demum glabrescentibus, subtus pallidioribus, brevissime petiolatis; stipulis parvis, oppositis, gibbosis, squamiformibus, fusco-rubellis, 2-fidis, laciniis lineari-acutis, erectis, ciliatis, sinu petioliferis; floribus 2–6, in gemmam squamosam congestis.

*Hab.* Mexico.—*v. s. in herb. Hook.*, Zacatecas (Coulter, 10); El Paso, Nov. Mex. (Wright, 91).

[To be continued.]

XLI.—*Characters of new Cingalese Land-Shells collected by F. Layard, Esq., Ceylon Civil Service.* By W. H. BENSON, Esq.

*Helix Rosamonda*, B. n. s.

Testa perforata, turbinata, tenui, arcuatim rugose striata, superne lineis confertis granulatis, infra striis obsoletis spiralibus decussata, luteo-olivacea, spiram versus fuscescens; spira conica, lateribus